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Using Massively Multiplayer Online Role Playing Games (MMORPGs) to Support Second Language Learning: Action Research in the Real and Virtual World

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Abstract. Massively Multiplayer Online Role Playing Games (MMORPGs) create large virtual communities. Online gaming shows potential not just for entertaining, but also for education. The aim of this research project is to investigate the use of commercial MMORPGs to support second language teaching. MMORPGs offer a digital safe space in which students can communicate by using their target language with global players. This qualitative research based on ethnography and action research investigates the students' experiences of language learning and performing while they play in the MMORPGs. Research was conducted in both the 'real' and 'virtual' worlds. In the real world the researcher observes the interaction with the MMORPGs by the students through actual discussion, and screen video captures while they are playing. In the virtual world, the researcher takes on the role of a character in the MMORPG enabling the researcher to get an inside point of view of the students and their own MMORPG characters. This latter approach also uses action research to allow the researcher to provide anonymous/private support to the students including in-game instruction, confidence building, and some support of language issues in a safe and friendly way. Using action research with MMORPGs in the real world facilitates a number of opportunities for learning and teaching including opportunities to practice language and individual and group experiences of communicating with other native/ second language speakers for the students. The researcher can also develop tutorial exercises and discussion for teaching plans based on the students' experiences with the MMORPGs. The results from this research study demonstrate that MMORPGs offer a safe, fun, informal and effective learning space for supporting language teaching. Furthermore the use of MMORPGs help the students' confidence in using their second language and provide additional benefits such as a better understanding of the culture and use of language in different contexts.

Keywords: online learning, MMORPGs, virtual learning environment, ethnography, action research

Introduction

Massively Multiplayer Online Role Playing Games (MMORPGs) have increasingly begun to be used as tools to develop learning and teaching across a number of disciplines. Many games have been developed as products to potentially enhance players' learning skills. MMORPG is one of the game genres which could facilitate collaborative learning in language. MMORPGs require players not only to complete a variety of tasks and develop their characters individually but also to participate in teams or guilds to accomplish specific missions. This function of MMORPG plays an important role in player-to-player communication. It requires cooperation and the exchange of information through language and across different cultures. MMORPGs are usually available in countries across the globe and thus open to players from a wide range of nationalities and cultures. The elements in the game play such as rules, goals and objectives, and spontaneous feedback require player' responsiveness and can be practiced and through this, build skills (Paraskeva et al, 2010). The results can lead to multiple learning processes and in-games knowledge and skills learned and practice can be simply transferred across different digital simulation worlds.

"Simulation also allows for students to take an active role; "learning by doing" is another principal tenet of social cognitive theory" (Bryant, 2006 p.3).

The aim of this research study is to investigate whether using popular or commercial MMORPGs in a second language teaching offers a physical safe environment for students to form and function their language skills without the solid control usually found in the classroom. Due to the benefits of MMORPGs' virtual space, second language learners acquire, firstly, self-directed in in-game task. This creates the ownership of self-learning. The role of decision-maker can challenge the learners to a high level of difficulty using trial and error process (Gee, 2003). The learners also control pace, time, and level of difficulty in MMORPGs. Secondly, MMORPGs' world provides an easy way to experience the second language and mix with native speakers, compared to real life. While finding target language speaker to practise seems to be difficult in language education, Bryant (2007) claimed that the environment and active communication within MMORPGs can bring many players from other countries into one combined area. Thirdly, learners can make language mistakes and learn from them in a more informal setting since it is more difficult to identify the individual learners and there is less control and scrutiny by the instructor compared to a classroom setting. The use of MMORPGs for language learning also provides an opportunity for the instructor to use them as the basis for language practice and assignment work within the classroom. (Stanley, 2008).

Background

Language learning using computer games has been discussed as one way to collaborate and facilitate education. There have been many attempts to connect games to educational curriculum since they can potentially provide a teaching method which enhances a student's ability to plan, critically think, and problem-solve. Williamson (2009) defines games as a

'persuasive medium' which can influence players' thought and action as it is 'constructionist' device for learning, and can importantly create a safe environment for practising skills.

Online games offer a suitable safe environment for English as a Second Language (ESL) student to practice drill skills and transfer knowledge (Smeets, 2005). In some countries such as Thailand where English is considered a foreign language, teaching ESL/EFL has been incredibly limited in links to the English speaking world. This lack of real communication with native speakers restricts the students' ability to practice their language skills and master the language. While face-to-face communication in the English language is a difficult opportunity to provide for ESL students, access over the internet via online games creates an alternative social interaction which could potentially support language learning.

According to Eustace et al (2004), supporting hybrid learning through the concept of a microworld and game play can help develop social skills and lead to a better understanding of language and culture. The social setting also helps with problem solving skills to achieve a common group goal. Bryant (2007) claims that MMORPGs are an ideal learning setting for language development since players need to communicate with other players to get involved with communal tasks, and have life-like communication activity. MMORPGs have potential for players to interact towards a meaningful goal and this aspect can develop contextual knowledge which would support language teaching and language acquisition through practice and the need to use repetitive skills to communicate. Taking a virtual identity provides active learning and meta-level thinking (Gee, 2007). From the perspective of language teaching meta-learning means knowing how to arrange, understand, and use knowledge in new context rather than attempting to memorise every possibility for every context. Crystal (2001) indicates that as the game players are communicating through the game interfaces with other players in their online community, their language skills become more expertise and professional. Online games, especially MMORPGs create multiple-tasks including individual and group tasks. Individual players need to develop their characters to survive and become masters, not only to progress within the game and interact with other players but also to have the charisma to negotiate with Non-Player Characters (NPCs) and other players to complete the goals in each map or scenario. The group task requires multi-players to achieve the mission together so they need to interact with each other to present themselves and what they can contribute to the group. Both tasks allow each player to communicate and exchange information in a particular language. Players share their experiences and backgrounds through social interaction either in virtual or real world. In addition, during the game play, some tasks often need to be repeated when players do not reach the requirements for the next level/stage. These game obstacles create repetitive tasks and the opportunity for players to reinforce their learning through repeated practice and performing of their language and social skills.

Research Methods

The experiment was conducted with 8 undergraduate students in a Thai university. The study brought in action research method to investigate their performances, experiences, and language skills. The researchers also conducted tutorial exams and activities based upon their virtual world experiences during the language teaching course. A (virtual)

ethnography approach was applied in order to understand and monitor the learners' routine in the assigned MMORPGs and also in the related tasks in the classroom. Three main MMORPGs were used: 'Godswar Online', 'Asda Story' and 'Zentia'. However other MMORPGs were introduced and chosen by the researcher and students to supplement these and provide additional language experiences during the project.

Action research method (tutorial work)

Short interviews and MMORPGs workshop were conducted with the participants at the start of the project to identify their knowledge and proficiency in the English language and online gaming. During the interviews it was found that the students have experiences of playing MMORPGs using Thai servers but not of English language MMORPGs using international servers. 'Godswar Online' was introduced as an international MMORPG so students could transform their previous experience of MMORPGs and get familiar with this one. An introduction to 'Godswar' was given by getting the students to read introduction papers via the game's official website in English and discuss these in class. These Real World (RW) tasks were assigned to support their second language performance and acquisition in the game itself. Reading, grammar, and vocabulary can be conducted and tested during the game play as a one-on-one approach between the learner and researcher. The additional performance within these skills was recorded and analysed by using an on screen video capture program 'Camtasia Screen Recorder' (CSR) and 'Camstudio'. MMORPGs require players to complete in-game tasks (quests) in order to progress to the next level. These require the players to read and explore new vocabulary. This reading task was supplemented by encouraging students to visit the official and fan webpages to support their learning. In addition classroom exercises were introduced based on the quest dialogues from the game with missing words for students to complete. This provided vocabulary drill tasks for the students alongside their game play.

Writing tasks and tests can be conducted in two ways; *online* – using the chat channel provided in the game interface and *offline* – using the quests in the MMORPG as a model for writing dummy quests when participating in classroom group work. Listening-Speaking practise was claimed as a lost skill in MMORPG play. However informal discussion sessions were conducted using English as a main language where the learners used their avatar names to lower their identity. This helped enhance their confidence and allow them to make mistakes and learn from them.

The virtual ethnography approach used by the researcher provided a mechanism for observing the natural routine of the students during the game play. This was used to determine what additional learning opportunities should be provided in the classroom. This flexible and tailored approach differed from the conventional classroom language teaching experience which usually follows a lesson plan with set tasks and assignment work and set tasks.

Virtual ethnography

Virtual ethnography was used to observe the learning process, the building of active tasks, and understand the social system being used during the learners' interaction and play in the MMORPGs. This approach can use an extensive range of data collection including observation, note-taking, and interactive communication through texts (Misuiishi, 2006). The researchers can gain an in-depth understanding of the online social system, chosen/ edited

language, and culture that are being assimilated within each virtual gaming community in each MMORPG. The students were involved in gaming approaches and events with the researcher during two-hour sessions each week. At the same time and without their knowledge, the researcher was also observing them in their virtual world through a teacher created avatar (as passer-by). Learning how to create the avatars, using the interface, interacting with Non-player Characters (NPCs) and getting familiar with the gaming system and community among the subjects was also collected as .avi format used CSR and *Camstudio* throughout the project. This recorded observation allowed the researchers to investigate the learners' routine, attention, and language acquisition when encountering different language code in MMORPGs.

In the first stage of the project, the subjects participated in *Godswar*. In the mid-session, the subjects and researcher moved to play *Asda Story* which requires advanced play to develop and strengthen their avatar and to keep the interest and attention in the game. In this game, students had more opportunity to explore and participate in virtual society as a group (guild) so that they had to use every possible language skills to be able to communicate with new/old players (non-peer) to survive and success in completing tasks. The level of achievement in *Asda Story* relies heavily on group relations rather than individual play so the researcher's avatar became a language and adventure assistant to help students with their guild acceptance and making progress. At this point, the researcher can closely study the students' interaction among global players and their language improvement.

During the last phase of using MMORPGs, *Zentia* an international MMORPG with Chinese cultural content was used. The researcher's avatar position shifted from assistant into team member since the game has many quests and activities compared to the previous games. *Zentia* does not only provide in-game quest regarding killing monsters to progress to a higher level but also uses world knowledge quizzes as an alternative way to killing monster to get prizes. This aspect can enhance the subjects' language proficiency relating to the actual world.

While playing these MMORPGs, subjects were given tutorial practises adopted from game elements and also exams to test their language acquisition.

Tutorial exams

The exams were introduced in three stages; pre-test, during the game exercises and post-test. After the students were introduced to the game and the basis elements of play the English test was used to measure student's level of English skills as a pre-test. ELLIS placement3 test was chosen. This is a standard computer – based English test used in several Thai universities. This test covers three English skills – vocabulary, grammar, and listening in multiple choice questions. Each part takes 30 minutes maximum. The range of score is between 5 and 605 and the level is between 1 to 12. During each game play, the subjects were assigned to work on exercises/tests after they reached a certain respective level. The tests design was based on the game content and results from the virtual ethnography approach. In *Godswar* session, the subjects were given two dummy tests imitated from the current MMORPG. The first test was consisted of gap-fill and answering the questions related to game play while the second test was creating a quest using *Godswar* NPCs quest as a model. In *Asda story*, the subjects were asked to design and run a tour activity in the virtual world for their peers to participate in. This activity required the students to apply language

learnt in the real world for a very specific purpose within the digital world. For example, the guide character told his/her team a direction to a specific place and narrated the background of that land mark by voice speaking as normal talk and conversation instead of typing. In *Zentia*, the game offered world knowledge as part of a quest in order to develop a player's avatar. This type of quest was used to test whether the subject can use their English skills when needed. ELLIS was administered as a post-test on the late session of game play which took place about 6 months after the pre-test.

Results

Attitude and Motivation

One of the key benefits for using MMORPGs is the direct positive effect on student attitude and motivation in second language learning. The game itself supports language practice once players engage in game activities as pleasure learning. The students not only involve themselves in playing the game for entertainment but also to cooperate in the assignments and use teamwork. Less teacher control allows them to design their own direction whether they want to play as individuals or contribute to peers or a virtual group (guild). The students have less hesitation when using English to communicate with other global players and form relationships easily and impressively compared to classroom practise where most second language students seem to hide their mistakes. Some active students immersed themselves with native speakers in the game and got positive responses, thus gaining high acceptance among the guild. The free choice of open role-play within MMORPGs allows students to take a different role and position contributing to the peer/guild. This approach provides ownership of their learning which can carry through to their learning engagement and self-development. Mainly MMORPGs have different jobs (roles) for players to choose:

1. Warrior/Mage, a strong and tough character – mainly highest in self-advancement and anticipation. The warrior/Mage is likely to become a leader of the team
2. Supporting jobs; range shooter, magic healer/buffer, and merchant. These characters are not likely to be focused on individual development and therefore they contribute and have fun helping others as a team. Since strengthening the avatar is not the main point of playing the game, they normally have time to form relationships (romantic, social, economic, trade, and consultant) and a variety of social networks (soulmate – a couple/partner, party – temporary group joined in a particular quest, guild – almost permanent group used in important events in the game).

According to Table 1, students were aware of their individual development in *Godswar*, the first MMORPG. However, after experiencing an international virtual social community system, their playing strategy changed to rely more on teamwork and guild acceptance. Taking the first three students in this table as examples, P shows unchanged character in three games and this results in the best performance in the group. Although the warrior type is acted individually, P contributes to the learning by helping his peers use the real world information (website) and virtual community and by asking other players directly in the game. While P might use his strength to gain acceptance among global players, C's job as a healer is highly demanding. In MMORPGs, any group adventurer finds it is very difficult to complete an advanced task without a healer during the journey. Since C has high healing

skills, he was asked by other players to travel with them. In fact, C is a very busy player in the team. Being a tough character may not be necessary as a purpose to play a MMORPG. Mo chose to learn a crafting skill instead of combat in order to become a rich man in the virtual world. He used his crafting skill to produce items such as rare materials, weapons, and armors in order to trade and participate through negotiation in the virtual market. These activities conducted by the students result in higher learning engagement and language improvement.

Table 1: Students chosen roles in three different MMORPGs

	<i>Godswar</i>	<i>Asda Story</i>	<i>Zentia</i>
P	Warrior	Warrior	Warrior
C	Warrior	Healer	Healer
H	Mage	Warrior	Healer
M	Warrior	Range and Warrior	Warrior
Mo	Mage	Range (Merchant)	Range (Merchant)
Mi	Mage	Mage	Healer
B	Mage	Range (consultant)	Range
K	Mage	Warrior	Warrior

Language development

In order to verify the research model and the language development of the students, the recordings of the students' game play, recorded using the screen video capture software were analysed.

- **Reading**

To evaluate reading development, results can be monitored spontaneously using in-game questing. In MMORPGs, questing is an essential activity provided by NPCs with the map. The player is expected to talk with the NPCs and the text in quest box will appear for the player to read. Generally the pattern of a questing text box contains; 1) quest description, 2) direction/ location, 3) target quantity and 4) prizes (physical point, money, and items).

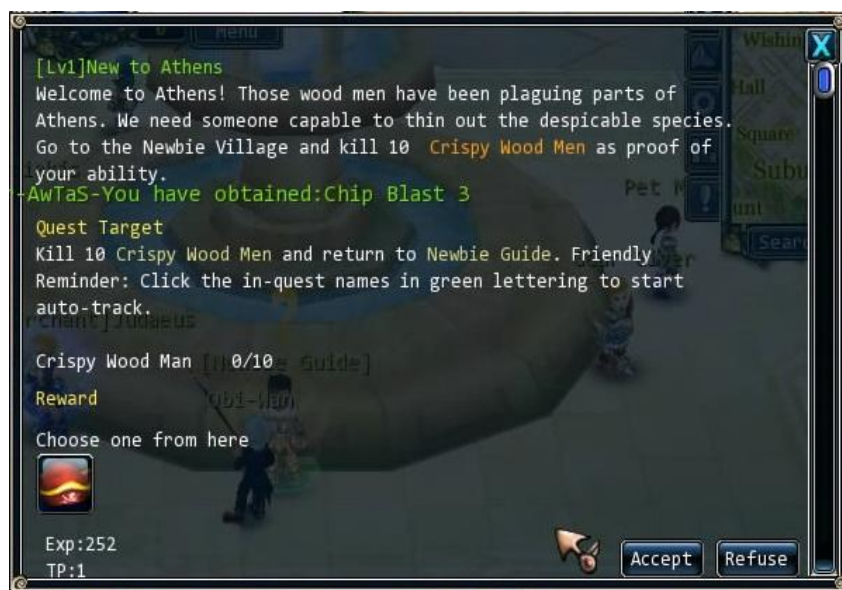


Figure 1: Quest box when taking with NPC.

After practising reading quests, the students become more comfortable and tolerant when reading English-text. The game also provides spontaneous feedback which the researcher and student can check. If the students read the quest correctly they are more likely to be able to attain the rewards, usually in the form of Physical points (Exp), money, and/or items. In addition, the more advanced players who want to dominate in the game are likely to browse additional information from the game related web pages.

- Vocabulary chunks

Renalli (2008) suggests that ESL learners can explore vocabulary in the game itself through the various sounds, texts, and images and get familiar with them through everyday routines and activity. The students learn and store new vocabulary by repetitive use and becoming familiar with those words used to make progress in the quest or teamwork. Moreover, MMORPGs offer models of both authentic and casual vocabulary. For example, one student has repeatedly read and memorised 'equipment' from NPCs, and learns how to use 'WM' instead of 'whisper me' when they need to have a private chat.

- Conversational relevance (make sense) to real world

The social networks provided in MMORPGs are key for practising conversational skills in the target language through chatting (Rankin, Gold & Gooch, 2006). The chatting device in the game serves different purposes in learning language as a space and model for constructing conversation while communicating with global/peer players. Firstly, students can observe how players talk to each other through the global chat channel, where everyone can see the dialogue. They can narrow their information providing it only for the guild or one-on-one (private) chats if they are afraid of making language mistakes. The visible instant message can provide a pattern to imitate in the beginning of the social interactions in the game. The student finally learns and distinguishes a live and relevant conversation in the current world from the text book in the classroom. The dialogues created by students were varied such as serious talk (planning war strategy), business (trading), greeting, search for advice, or shouting. A chance to encounter global players who are native speakers can help them to practise their conversational skill, thus they gain more confidence when using their second language in a real world situation. Notably, the abbreviation words used in MMORPGs dialogue such as 'tq' for 'thank you' do not distort or confuse their real world sentence construction; and they realise and come to know that they should use 'tq' only in the game and social networking and elaborate it to *thank you* in a real conversation.



Figure 2: Student is chatting with another player.

The incentive for students to practise their chatting skills in the MMORPGs was much greater than in the classroom. As mentioned above, the conversation created by students in the game leads to success within the game including development of their avatar, financial reward, acceptance and gains in their virtual social rank.

- Writing

Writing in MMORPGs may be limited since the only way players can write (or type) is through the chat box. However the project adapted elements from the MMORPGs for students to practise writing in different ways.

The researcher used in-game quests as a model for students to practise writing. After students reached a certain level in each game (usually when their level is permitted in in-game main event such as flag-war, allowed only higher level than 24 – *Asda story*), they were asked to create their own quest basically containing the following elements: story (objective), direction, and reward (s). They used their own imagination but the quest was expected to react with in-game geographic area, NPCs, and monsters. Feedback was provided immediately by their peers by seeing if they could follow and complete the given quest. In addition, the peers who participated with the given quest were required to write a journey note in return.

Between the mid and last sessions, the advanced player provided his spread sheet of *Zentia* guidelines for his peers. He wrote about the description of each job choosing in game and his opinions in English. This approach is considered as a positive outcome of using MMORPG in language learning for the real world.

- Public speaking practice

The role of practising speaking can be enhanced by collaborating in the MMORPGs and using it as a tool for language teaching. The project used *Asda Story* for preparing speaking practise since the level of their avatar were considered high enough to travel into the danger area. Each student was assigned to explore a place and land marks in the game for their peers as a visitors. They had two weeks preparation before the presentation. The students used their avatars to travel together in the map. The host (guide) had to tell (make up) the story of chosen land marks and how important they are within the area. The guide needed

to react to the visible surroundings such as trees, monsters, or other players. As a result, although the students may not be professional in using English for speaking, they used the MMORPGs' geographical space and surroundings as a supporting device to narrate a tour and help develop their speaking skills.

- ELLIS practment3 test

To evaluate vocabulary, grammar, and listening skills developed during the project, a standard test – ELLIS was performed by the students. The relationships between leaning language and game play are displayed in the test results for one participant, K.

Table 2: the example of ELLIS result from one of the participants, K

	Pre-test			Post-test		
	Score	Level	Total level	Score	Level	Total level
Vocabulary	260	6		310	8	
Grammar	235	5	5	285	7	7
Listening	210	5		325	8	

According to Table 2, the example student, K, shows the effectiveness of learning language through MMORPGs. K was the lowest performance among the group during pre-test. After the treatment, his overall performance is significantly increased from level 5 to 7. The individual score in each skill has increased impressively. As predicted, second language acquisition had positive effects in both his achievement in the game play and his language learning.

Conclusions and Implication

This study investigates using commercial MMORPGs as a tool for supporting second language learning and teaching for undergraduate students. The games offer digital safe spaces for learners to practise and opportunities to communicate with other players across the globe where they can input their language ability without detection and hesitation. Virtual ethnography methods were used to observe the students in the game and prepare language tasks and tests derived from the game play. These were then delivered into real world practice using an action research process. Using game play has helped students address some of the issues of using language for real and provided benefits for the teacher in terms of being able to provide help and feedback in a friendly manner. The findings demonstrate that MMORPGs can successfully support language learning as illustrated by the improvements in the standard language tests and the participation and progression in the game itself. The students became more active in using English, showing greater patience in reading, being more motivated to write and also to produce dialogue when speaking and chatting. One of the students, C said that *"Playing online game helps me to improve English skills. I've got many vocabularies from online game and I can practice conversation with the player from online game. They teach me how to speak with them and explain about conversation"*. Motivation in language learning is also generated when playing games since the students can own and control the learning process. Confidence is also boosted through their interactions with other players. Student B commented *"Because of playing MMORPG, I talked*

a lot with many people from different countries and that helps me to know how to communicate with foreigners". Lastly, in the light of using MMORPGs in education, the authors believe that games and technology can significantly facilitate learning when used properly and provided in appropriate amounts.

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